No. 8200152

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Dekalb-Pfizer Genetics

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF *eighteen* YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

CORN

'FAPW'

In Testimony Whereof, *I have hereunto set my hand and caused the seal of the* Plant Variety Protection Office *to be affixed at the City of* Washington *this* 27th *day of* February *in the year of our Lord one thousand nine hundred and* eighty-four.

Attest:

Kenneth A. Evans
Commissioner
Plant Variety Protection Office
Grain Division
Agricultural Marketing Service

John R Block
Secretary of Agriculture

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, POULTRY, GRAIN & SEED DIVISION

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

INSTRUCTIONS: *See Reverse.*

FORM APPROVED
OMB NO. 40-R3822

No certificate for plant variety protection may be issued unless a completed application form has been received (5 U.S.C. 553).

1a. TEMPORARY DESIGNATION OF VARIETY	1b. VARIETY NAME	FOR OFFICIAL USE ONLY	
FAPW	FAPW	PV NUMBER 8200152	
2. KIND NAME	3. GENUS AND SPECIES NAME	FILING DATE 8/12/82	TIME 11:30 A.M. XXXX
CORN	Zea Mays	FEE RECEIVED $ 500.00 $ 250.00	DATE 8/12/82 12/5/83
4. FAMILY NAME (BOTANICAL)	5. DATE OF DETERMINATION		
Gramineae	1973		

6. NAME OF APPLICANT(S)	7. ADDRESS *(Street and No. or R.F.D. No., City, State, and ZIP Code)*	8. TELEPHONE AREA CODE AND NUMBER
DEKALB-PFIZER GENETICS	Sycamore Road DeKalb, IL 60115	815/758-3461

9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: *(Corporation, partnership, association, etc.)*	10. IF INCORPORATED, GIVE STATE AND DATE OF INCORPORATION	11. DATE OF INCORPORATION
Partnership		

12. NAME AND MAILING ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS: Eric Christophersen; DEKALB-PFIZER GENETICS
3100 Sycamore Road
DeKalb, IL 60115

13. **CHECK BOX BELOW FOR EACH ATTACHMENT SUBMITTED:**

- [X] 13A. Exhibit A, Origin and Breeding History of the Variety *(See Section 52 of the Plant Variety Protection Act.)*
- [X] 13B. Exhibit B, Novelty Statement.
- [X] 13C. Exhibit C, Objective Description of the Variety *(Request form from Plant Variety Protection Office.)*
- [X] 13D. Exhibit D, Additional Description of the Variety.

14a. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? *(See Section 83(a). (If "Yes," answer 14B and 14C below.)* [ ] YES [X] NO

14b. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?	14c. IF "YES," TO 14B, HOW MANY GENERATIONS OF PRODUCTION BEYOND BREEDER SEED?
[ ] YES [ ] NO	[ ] FOUNDATION [ ] REGISTERED [ ] CERTIFIED

15a. DID THE APPLICANT(S) FILE FOR PROTECTION OF THIS VARIETY IN OTHER COUNTRIES? [ ] YES [X] NO *(If "Yes," give name of countries and dates.)*

15b. HAVE RIGHTS BEEN GRANTED THIS VARIETY IN OTHER COUNTRIES? [ ] YES [X] NO *(If "Yes," give name of countries and dates.)*

~~16. DOES THE APPLICANT(S) AGREE TO THE PUBLICATION OF HIS/HER (THEIR) NAME(S) AND ADDRESS IN THE OFFICIAL JOURNAL? [ ] YES [ ] NO~~

17. The applicant(s) declare(s) that a viable sample of basic seed of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

August 4, 1982
(DATE)

John W. McCarter, Jr.
(SIGNATURE OF APPLICANT)

President

(DATE)

(SIGNATURE OF APPLICANT)

FORM GR-470 (1-78)

INSTRUCTIONS

GENERAL: Send an original copy of the application and exhibits, at least 2,500 viable seeds, and $500 fee ($250 filing fee and $250 examination fee) to U.S. Dept. of Agriculture, Agricultural Marketing Service, Livestock, Poultry, Grain and Seed Division, Plant Variety Protection Office, National Agricultural Library Building, Beltsville, Maryland 20705. (See section 180.175 of the Regulations and Rules of Practice.) Retain one copy for your files. All items on the face of the form are self-explanatory unless noted below.

ITEM

5 Give the date the applicant determined that he had a new variety based on (1) the definition in section 41(a) of the Act and (2) the date a decision was made to increase the seed.

13a Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method; (2) the details of subsequent stages of selection and multiplication; (3) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified and (4) evidence of uniformity and stability.

13b Give a summary statement of the variety's novelty. Clearly state how this novel variety may be distinguished from all other varieties in the same crop. If the new variety most closely resembles one or a group of related varieties: (1) identify these varieties and state all differences objectively; (2) attach statistical data for characters expressed numerically and demonstrate that these differences are significant; and (3) submit, if helpful, seed and plant specimens or photographs of seed and plant comparisons clearly indicating novelty.

13c Fill in the Exhibit C, Objective Description form, for all characteristics for which you have adequate data.

13d Describe any additional characteristics that are not described, or whose description cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the description of characteristics that are difficult to describe, such as, plant habit, plant color, disease resistance, etc.

14a If "YES" is specified (seed of this variety be sold by variety name only as a class of certified seed) the applicant may NOT reverse his affirmative decision after the variety has either been sold and so labeled, his decision published, or the certificate has been issued. However, if the applicant specified "NO," he may change his choice. (See section 180.16 of the Regulations and Rules of Practice.)

15a See section 42 of the Plant Variety Protection Act and section 180.7 of the Regulations and Rules of Practice.

13A. Exhibit A, Origin and Breeding History of Dent Corn Inbred FAPW.

Winter 1968: The cross B14AH x B37H was made at Homestead, Florida. Both B14A and B37 are public lines released from Iowa and were developed from Iowa Stiff Stalk Synthetics. The single gene Ht_1 was backcrossed into each of these lines by DEKALB and selected for type. The source of the HT_1 gene for B14A was LFP and the source of HT_1 for B37 was Ge440. DEKALB designated these lines as B14AH and B37H, respectively. The cross was made reciprocal between the two inbred lines. All cross-pollinated ears were sent to DeKalb, Illinois (1968 nursery book, numbers 5-2139 and 5-2140).

Summer 1969: The single cross B14AH x B37H was grown in the observation section of the nursery. Selfs were made in row number 2400 at DeKalb, Illinois.

Summer 1970: One 17 plant row of the cross, B14AH x B37H, was grown at DeKalb, Illinois and self pollinated. All S_1 seed from the self-pollinated ears was bulked (1970 nursery book - row number 23364).

Winter 1970: A random sample of the bulked (B14AH x B37H) S_1 seed was sent to Homestead, Florida and self pollinated. The number of S_1 plants grown was 1 row of 17 plants. All self-pollinated ears were sent to DeKalb, Illinois. The S_2 seed was bulked (1970 nursery book - row number 5-3200).

Summer 1971: A random sample of the bulked (B14AH x B37H) S_2 seed was planted in two 17 plant rows. Selection among pollinated plants within rows was based on desirable plant and ear characteristics, stalk quality, foliar disease resistance, and European corn borer resistance. Two ears were selected from the two nursery rows and each ear shelled individually (1971 nursery book - row numbers 31590 and 31591).

Winter 1971: S_3 seed of each ear selection was sent to Homestead, Florida and self pollinated. Each ear was represented by a 17-plant row. All self-pollinated ears were sent to DeKalb, Illinois. All S_4 seed from the self-pollinated ears was bulked for each row (1971 nursery book - row numbers 5-2189 and 5-2190).

Summer 1972: S_4 bulk seed was planted at DeKalb, Illinois and self pollinated. The S_4 generation was represented by two races of bulked seed from the winter rows (5-2109 bulked and 5-2180 bulked). Each family was represented by a random sample of 17 plants from each of the respective seed bulks. Selection among plants within the row was based on desirable plant and ear characteristics, stalk quality, foliar disease resistance and European corn borer resistance. S_5 seed from 1972 nursery row 31993 was selected for ear type and bulked (1972 nursery book - row numbers 31992 and 31993).

13A. Exhibit A, Origin and Breeding History of Dent Corn Inbred FAPW (cont.)

Winter 1972: S_5 bulk seed (row 31993) was sent to Homestead, Florida and self pollinated. The S_5 generation was represented by one 17 plant row. All self-pollinated ears were sent to DeKalb, Illinois. Ears were observed and selected for type and bulked. The S_6 bulk was assigned the inbred code FAPW.

Summer 1973: Initiation of seed increase of FAPW and test crossing.

The initial cross of B14AH x B37H and subsequent selection in each of the segregating generations up to the coding of FAPW was made by Dr. Charles W. Crum.

The inbred line FAPW has been self pollinated and selected for type for enough generations to assure uniformity of the line. Plant height, ear height, tassel type and ear type are very uniform. Some residual variation is evident at the Acph locus for the isozyme data.

The Illinois Crop Improvment Association, Inc. has certified several seed lots of FAPW which indicate that the line is uniform and stable. Copies are enclosed of certification for FAPW. (Exhibit A. Appendum I.)

8200152

03310/1/002
DEKALB AGRESEARCH INC
Applicant

FAPW Exhibit A. Appendum I.

1025 OAK ST
DEKALB IL 60115

TEST Date JANUARY 25, 1982

Test No. 412968 Lot No. 8122

Kind & Variety (Producers Declaration)
FOUNDATION 0464 CORN, FIELD

THIS SAMPLE MEETS CERTIFICATION REQUIREMENTS BASED ON SOURCE OF SEED, FIELD INSPECTION AND LABORATORY ANALYSIS

GERMINATION REPORT: 400 Seeds

Germination	88	%	Strong		%	Cold Test	%
Hard Seed		%	Pod & Stem Blight		%	A-A Test	%
Dead Seed	12	%	Other Diseases		%	Tetrazolium	%

PURITY REPORT:

Pure Seed		99.35	%	Test Weight 59.60LBS.
Weed Seeds		.00	%	
Other Crop Seeds		.00	%	Moisture 10.00%
Total Inert Matter		.65	%	
Broken Seed	.64		%	Total Weight of Sample Examined: 500.00
Other Inert	.01		%	

Dockage from 1,000 grams:

Noxious Weeds	Other Weed Seeds
NONE	NONE
Other Crop Seeds	**Inert Matter**
NONE	BROKEN SEED CHAFF

REMARKS: GRADE-F3-TD

This certifies that the sample of seed submitted of the lot designated above has been analyzed in accordance with the RULES FOR SEED TESTING AS ADOPTED BY THE ASSOCIATION OF OFFICIAL SEED ANALYSTS. VIGOR TESTING INFORMATION CANNOT BE USED FOR LABELING PURPOSES.

ILLINOIS CROP IMPROVEMENT ASSOCIATION, INC.
508 South Broadway, Urbana, Illinois 61801
Telephone: 217-367-4053

Registered Seed Technologist

James R. Shenk
Manager

FORM 3-0881

JANUARY 26 1982

03310/1/002
DEKALB AGRESEARCH INC
Applicant

FAPW Exhibit A, Appendum I.

1025 OAK ST
DEKALB IL 60115

TEST Date JANUARY 25, 1982

Test No. 412969

Lot No. 8122

Kind & Variety (Producers Declaration)
FOUNDATION 0464 CORN, FIELD

THIS SAMPLE MEETS CERTIFICATION REQUIREMENTS BASED ON SOURCE OF SEED, FIELD INSPECTION AND LABORATORY ANALYSIS

GERMINATION REPORT: 400 Seeds

Germination	89 %	Strong	%	Cold Test	%
Hard Seed	%	Pod & Stem Blight	%	A-A Test	%
Dead Seed	11 %	Other Diseases	%	Tetrazolium	%

PURITY REPORT:

Pure Seed		99.50 %		Test Weight	60.10 LBS.
Weed Seeds		.00 %			
Other Crop Seeds		.00 %		Moisture	8.00%
Total Inert Matter		.50 %			
Broken Seed	.45	%		Total Weight of Sample Examined:	500.00
Other Inert	.05	%			
				Dockage from 1,000 grams:	

Noxious Weeds	Other Weed Seeds
NONE	NONE

Other Crop Seeds	Inert Matter
NONE	BROKEN SEED CHAFF

REMARKS: GRADE-F4-TD

This certifies that the sample of seed submitted of the lot designated above has been analyzed in accordance with the RULES FOR SEED TESTING AS ADOPTED BY THE ASSOCIATION OF OFFICIAL SEED ANALYSTS.
VIGOR TESTING INFORMATION CANNOT BE USED FOR LABELING PURPOSES.

ILLINOIS CROP IMPROVEMENT ASSOCIATION, INC.
508 South Broadway, Urbana, Illinois 61801
Telephone: 217-367-4053

Registered Seed Technologist

James R. Sheil
Manager

FORM 3-0881

8200152

03310/1/002
DEKALB AGRESEARCH INC

Applicant

FAPW Exhibit A. Appendum I.

1025 OAK ST
DEKALB IL 60115

TEST Date JANUARY 25, 1982

Test No. 412970 Lot No. 8122

Kind & Variety (Producers Declaration)
FOUNDATION 0464 CORN, FIELD

THIS SAMPLE MEETS CERTIFICATION REQUIREMENTS BASED ON SOURCE OF SEED, FIELD INSPECTION AND LABORATORY ANALYSIS

GERMINATION REPORT: 400 Seeds

Germination	93	%	Strong		%	Cold Test	%
Hard Seed		%	Pod & Stem Blight		%	A-A Test	%
Dead Seed	7	%	Other Diseases		%	Tetrazolium	%

PURITY REPORT:

Pure Seed		99.89	%	Test Weight 60.10LBS.
Weed Seeds		.00	%	
Other Crop Seeds		.00	%	Moisture 10.10%
Total Inert Matter		.11	%	
Broken Seed	.10		%	Total Weight of Sample Examined: 500.00
Other Inert	.01		%	

Dockage from 1,000 grams:

Noxious Weeds	Other Weed Seeds
NONE	NONE
Other Crop Seeds	**Inert Matter**
NONE	BROKEN SEED CHAFF

REMARKS: GRADE-F5-TD

This certifies that the sample of seed submitted of the lot designated above has been analyzed in accordance with the RULES FOR SEED TESTING AS ADOPTED BY THE ASSOCIATION OF OFFICIAL SEED ANALYSTS. VIGOR TESTING INFORMATION CANNOT BE USED FOR LABELING PURPOSES.

ILLINOIS CROP IMPROVEMENT ASSOCIATION, INC.
508 South Broadway, Urbana, Illinois 61801
Telephone: 217-367-4053

Registered Seed Technologist

James R. Sherl
Manager

8200152

03310/1/002
DEKALB AGRESEARCH INC

FAPW Exhibit A. Appendum I.

Applicant

1025 OAK ST
DEKALB IL 60115

TEST Date JANUARY 25, 1982

Test No. 412971 Lot No. 8122

Kind & Variety (Producers Declaration)
FOUNDATION 0464 CORN, FIELD

THIS SAMPLE MEETS CERTIFICATION REQUIREMENTS BASED ON SOURCE OF SEED, FIELD INSPECTION AND LABORATORY ANALYSIS

GERMINATION REPORT: 400 Seeds

Germination	87	%	Strong		%	Cold Test	%
Hard Seed		%	Pod & Stem Blight		%	A-A Test	%
Dead Seed	13	%	Other Diseases		%	Tetrazolium	%

PURITY REPORT:

Pure Seed		99.52	%	Test Weight	59.60 LBS.
Weed Seeds		.00	%		
Other Crop Seeds		.00	%	Moisture	8.00%
Total Inert Matter		.48	%		
Broken Seed	.45		%	Total Weight of Sample Examined:	500.00
Other Inert	.03		%		
				Dockage from 1,000 grams:	

Noxious Weeds	Other Weed Seeds
NONE	NONE
Other Crop Seeds	**Inert Matter**
NONE	BROKEN SEED CHAFF

REMARKS: GRADE-R13-TD

This certifies that the sample of seed submitted of the lot designated above has been analyzed in accordance with the RULES FOR SEED TESTING AS ADOPTED BY THE ASSOCIATION OF OFFICIAL SEED ANALYSTS. VIGOR TESTING INFORMATION CANNOT BE USED FOR LABELING PURPOSES.

ILLINOIS CROP IMPROVEMENT ASSOCIATION, INC.
508 South Broadway, Urbana, Illinois 61801
Telephone: 217-367-4053

C. E. Lauer
Registered Seed Technologist

James R. Sheil
Manager

FORM 3-0881
JANUARY 26 1982

8200152 RECD

03310/1/002
DEKALB AGRESEARCH INC
Applicant

FAPW Exhibit A. Appendum I.

1025 OAK ST
DEKALB IL 60115

TEST Date JANUARY 25, 1982

Test No. 412972 Lot No. 8122

Kind & Variety (Producers Declaration)
FOUNDATION 0464 CORN, FIELD

THIS SAMPLE MEETS CERTIFICATION REQUIREMENTS BASED ON SOURCE OF SEED, FIELD INSPECTION AND LABORATORY ANALYSIS

GERMINATION REPORT: 400 Seeds

Germination	93	%	Strong		%	Cold Test	%
Hard Seed		%	Pod & Stem Blight		%	A-A Test	%
Dead Seed	7	%	Other Diseases		%	Tetrazolium	%

PURITY REPORT:

Pure Seed		98.80	%	Test Weight	58.50LBS.
Weed Seeds		.00	%		
Other Crop Seeds		.00	%	Moisture	8.00%
Total Inert Matter		1.20	%		
Broken Seed	1.18		%	Total Weight of Sample Examined:	300.00
Other Inert	.02		%		

Dockage from 1,000 grams:

Noxious Weeds	Other Weed Seeds
NONE	NONE
Other Crop Seeds	**Inert Matter**
NONE	BROKEN SEED CHAFF

REMARKS: GRADE-R14-TD

This certifies that the sample of seed submitted of the lot designated above has been analyzed in accordance with the RULES FOR SEED TESTING AS ADOPTED BY THE ASSOCIATION OF OFFICIAL SEED ANALYSTS. VIGOR TESTING INFORMATION CANNOT BE USED FOR LABELING PURPOSES.

ILLINOIS CROP IMPROVEMENT ASSOCIATION, INC.
508 South Broadway, Urbana, Illinois 61801
Telephone: 217-367-4053

Registered Seed Technologist

James R. Sherl
Manager

FORM 3-0881
JANUARY 26, 1982

8200152

03310/1/002
DEKALB AGRESEARCH INC

FAPW Exhibit A. Appendum I.

Applicant

1025 OAK ST
DEKALB IL 60115

TEST Date JANUARY 25, 1982

Test No. 412973 Lot No. 8122

Kind & Variety (Producers Declaration)
FOUNDATION 0464 CORN, FIELD

THIS SAMPLE MEETS CERTIFICATION REQUIREMENTS BASED ON SOURCE OF SEED, FIELD INSPECTION AND LABORATORY ANALYSIS

GERMINATION REPORT: 400 Seeds

Germination	95	%	Strong		%	Cold Test	%
Hard Seed		%	Pod & Stem Blight		%	A-A Test	%
Dead Seed	5	%	Other Diseases		%	Tetrazolium	%

PURITY REPORT:

Pure Seed		99.64	%	Test Weight	60.00 LBS.
Weed Seeds		.00	%		
Other Crop Seeds		.00	%	Moisture	8.00%
Total Inert Matter		.36	%		
Broken Seed	.35		%	Total Weight of Sample Examined:	500.00
Other Inert	.01		%		

Dockage from 1,000 grams:

Noxious Weeds	Other Weed Seeds
NONE	NONE
Other Crop Seeds	**Inert Matter**
NONE	BROKEN SEED CHAFF

REMARKS: GRADE-R15-TD

This certifies that the sample of seed submitted of the lot designated above has been analyzed in accordance with the RULES FOR SEED TESTING AS ADOPTED BY THE ASSOCIATION OF OFFICIAL SEED ANALYSTS.
VIGOR TESTING INFORMATION CANNOT BE USED FOR LABELING PURPOSES.

ILLINOIS CROP IMPROVEMENT ASSOCIATION, INC.
508 South Broadway, Urbana, Illinois 61801
Telephone: 217-367-4053

Registered Seed Technologist

James R. Sheil
Manager

FAPW

Exhibit B, Novelty Statement

FAPW is compared to A632 as both lines have B14 breeding in their ancestry and make hybrids of similar maturity when crossed to common lines.

In measuring height characteristics of FAPW and A632, differences were statistically significant for plant height and ear height. Number of kernel rows was also statistically different as FAPW had fewer kernel rows on the ear.

A substantial difference can be noted statistically for the shank length as FAPW has a much shorter shank. The mean of these characteristics and the hypothesis for testing differences are presented in Exhibit B, Appendum I.

'FAPW' IS MOST SIMILAR TO 'A632'. (APPLICANT'S LETTER OF OCT. 29, 1982) RJS 11/1/82

FAPW

Exhibit B, Novelty Statement.

Appendum I.

FAPW vs. A632

Plant Characteristics	FAPW	A632	Testing Hypothesis $H_0: \mu_1 = \mu_2$ $H_A: \mu_1 \neq \mu_2$
Ear Height (cm)	$\bar{X}_1 = 78.53$	$X_2 = 88.88$	Significant ($\alpha = 0.1$)
Ear Length (mm)	$\bar{X}_1 = 160.34$	$X_2 = 162.7$	Not significant ($\alpha = 0.1$)
Ear Diameter (mm)	$\bar{X}_1 = 41.66$	$X_2 = 41.5$	Not significant ($\alpha = 0.1$)
Shank Length (mm)	$\bar{X}_1 = 78.89$	$X_2 = 118.3$	Significant ($\alpha = 0.1$)
Number of Kernel Rows	$\bar{X}_1 = 14.93$	$X_2 = 16$	Significant ($\alpha = 0.1$)
Plant Height (cm)	$\bar{X}_1 = 178.08$	$X_2 = 146.88$	Significant ($\alpha = 0.1$)
Number of Leaves	$\bar{X}_1 = 20.68$	$X_2 = 20.83$	Not significant ($\alpha = 0.1$)

1) Degrees of freedom vary in each testing.

2) Detailed calculations are available.

FORM APPROVED: OMB NO. 40-R3822

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, POULTRY, GRAIN & SEED DIVISION
BELTSVILLE, MARYLAND 20705

EXHIBIT C (Corn)

FAPW

OBJECTIVE DESCRIPTION OF VARIETY

CORN *(ZEA MAYS)*

NAME OF APPLICANT(S)

ADDRESS *(Street and No. or R.F.D. No., City, State, and ZIP Code)*

Sycamore Road
DeKalb, IL 60115

FOR OFFICIAL USE ONLY

PVPO NUMBER 8200152

VARIETY NAME OR TEMPORARY DESIGNATION

FAPW

Place the appropriate number that describes the varietal character of this variety in the boxes below.
Place a zero in first box (e.g. [0][8][9] or [0][9]) when number is either 99 or less or 9 or less.

1. TYPE:

[2] 1 = SWEET 2 = DENT 3 = FLINT 4 = FLOUR 5 = POP 6 = ORNAMENTAL

2. REGION WHERE BEST ADAPTED IN THE U.S.A.:

[7] 1 = NORTHWEST 2 = NORTHCENTRAL 3 = NORTHEAST 4 = SOUTHEAST
5 = SOUTHCENTRAL 6 = SOUTHWEST 7 = MOST REGIONS

3. MATURITY (In Region of Best Adaptability):

(Under "comments" (pg. 3) state how heat units were calculated)

[7][3] DAYS FROM EMERGENCE TO 50% OF PLANTS IN SILK	[1][3][1][7]	HEAT UNITS
[N][A] DAYS FROM 50% SILK TO OPTIMUM EDIBLE QUALITY	[ ][ ][ ][ ]	HEAT UNITS
[7][2] DAYS FROM 50% SILK TO HARVEST AT 25% KERNEL MOISTURE	[1][1][1][6]	HEAT UNITS

4. PLANT:

[1][7][6] CM. HEIGHT (To tassel tip) [0][7][9] CM. EAR HEIGHT (To base of top ear)

[1][1] CM. LENGTH OF TOP EAR INTERNODE

Number of Tillers:

[4] 1 = NONE 2 = 1–2 3 = 2–3 4 = > 3

Number of Ears Per Stalk:

[2] 1 = SINGLE 2 = SLIGHT TWO-EAR TENDENCY
3 = STRONG TWO-EAR TENDENCY 4 = THREE-EAR TENDENCY

Cytoplasm Type:

[1] 1 = NORMAL 2 = "T" 3 = "S" 4 = "C" 5 = OTHER (Specify) _____

5. LEAF (Field Corn Inbred Examples Given):

Color:

[2] 1 = LIGHT GREEN (HY) 2 = MEDIUM GREEN (WF9) 3 = DARK GREEN (B14) 4 = VERY DARK GREEN (K166)

Angle from Stalk (Upper half):

[2] 1 = < 30° 2 = 30–60° 3 = > 60°

Sheath Pubscence:

[1] 1 = LIGHT (W22) 2 = MEDIUM (WF9) 3 = HEAVY (OH26)

Marginal Waves:

[2] 1 = NONE (HY) 2 = FEW (WF9) 3 = MANY (OH7L)

Longitudinal Creases:

[1] 1 = ABSENT (OH51) 2 = FEW (OH56A) 3 = MANY (PA11)

Width:

[1][0] CM. WIDEST POINT OF EAR NODE LEAF

Length:

[0][6][9] CM. EAR NODE LEAF

[2][1] NUMBER OF LEAVES PER MATURE PLANT

12

6. TASSEL:

[0][4] NUMBER OF LATERAL BRANCHES

Branch Angle from Central Spike:

[2] 1 = < 30° 2 = 30–40° 3 = > 45°

Peduncle Length:

[0][5] CM. FROM TOP LEAF TO BASAL BRANCHES

Pollen Shed:

[1] 1 = LIGHT (WF9) 2 = MEDIUM 3 = HEAVY(KY21)

[6] **Anther Color:**
[5] **Glume Color:**
1 = YELLOW 2 = PINK 3 = RED 4 = PURPLE 5 = GREEN
6 = OTHER (Specify) violet

Pollen Restoration for Cytoplasms (o = Not Tested, 1 = Partial, 2 = Good)

[0] "T" [0] "S" [ ] "C" [ ] OTHER (Specify Cytoplasm and degrees of restoration) _____

7. EAR (Husked Ear Data Except When Stated Otherwise):

[1][6] CM LENGTH [4][2] MM. MID-POINT DIAMETER [8][5] GM. WEIGHT

Kernel Rows:

[1] 1 = INDISTINCT 2 = DISTINCT [1][4] NUMBER

[2] 1 = STRAIGHT 2 = SLIGHTLY CURVED 3 = SPIRAL

Silk Color (Exposed at Silking Stage):

[1] 1 = GREEN/yellow 2 = PINK 3 = SALMON 4 = RED

Husk Color:

[1] FRESH
[6] DRY
1 = LIGHT GREEN 2 = DARK GREEN 3 = PINK
4 = RED 5 = PURPLE 6 = BUFF

Husk Extention: (Harvest Stage)

[2] 1 = SHORT (Ears Exposed) 2 = MEDIUM (Barely Covering Ear)
3 = LONG (8–10CM Beyond Ear Tip)
4 = VERY LONG (> 10 CM)

Husk Leaf:

[1] 1 = SHORT (< 8 CM) 2 = MEDIUM (8–15 CM)
3 = LONG (> 15 CM)

Shank:

[8][0] CM LONG [7] NO. OF INTERNODES

Position at Dry Husk Stage:

[1] 1 = UPRIGHT 2 = HORIZONTAL 3 = PENDENT

Taper:

[2] 1 = SLIGHT 2 = AVERAGE 3 = EXTREME

Drying Time (Unhusked Ear):

[3] 1 = SLOW 2 = AVERAGE 3 = FAST

8. KERNEL (Dried):

Size (From Ear Mid-Point):

[1][0] MM LONG [0][9] MM. WIDE [0][5] MM. THICK

Shape Grade (% Rounds)

[4] 1 = < 20 2 = 20–40 3 = 40–60 4 = 60–80 5 = > 80

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8. KERNEL (Dried) :

[1] **Pericarp Color:** 1 = COLORLESS 2 = RED-WHITE CROWN 3 = TAN 4 = BRONZE 5 = BROWN 6 = LIGHT RED 7 = CHERRY RED 8 = VARIEGATED (Describe) _____

[1] **Aleurone Color:** 1 = HOMOZYGOUS 2 = SEGREGATING (Describe) _____

[10] 1 = WHITE 2 = PINK 3 = TAN 4 = BROWN 5 = BRONZE 6 = RED 7 = PURPLE 8 = PALE PURPLE 9 = VARIEGATED (Describe) 10 = yellow

[3] **Endosperm Color:** 1 = WHITE 2 = PALE YELLOW 3 = YELLOW 4 = PINK-ORANGE 5 = WHITE CAP.

Endosperm Type:

[3] 1 = SWEET (su1) 2 = EXTRA SWEET (sh2) 3 = NORMAL STARCH 4 = HIGH AMYLOSE STARCH 5 = WAXY STARCH 6 = HIGH PROTEIN 7 = HIGH LYSINE 8 = OTHER (Specify) _____

[3][1] GM. WEIGHT /100 SEEDS (Unsized Sample)

9. COB:

[2][4] MM. DIAMETER AT MID-POINT

Strength:

[2] 1 = WEAK 2 = STRONG

Color:

[3] 1 = WHITE 2 = PINK 3 = RED 4 = BROWN 5 = VARIEGATED 6 OTHER (Specify) _____

10. DISEASE RESISTANCE (0 = Not Tested, 1 = Susceptible, 2 = Resistant):

[0]	STALK ROT (Diplodia)	[0]	STALK ROT (Fusarium)	[0]	STALK ROT (Gibberella)
[1.9]	NORTHERN LEAF BLIGHT	[1.8]	SOUTHERN LEAF BLIGHT	[0]	SMUT
[0]	SOUTHERN RUST	[0]	CORN SMUT	[0]	BACTERIAL WILT
[0]	BACTERIAL LEAF BLIGHT	[1]	MAIZE DWARF MOSAIC	[0]	STUNT
[ ]	OTHER (Specify)				

11. INSECT RESISTANCT (0 = Not Tested, 1 = Susceptible, 2 = Resistant):

[1]	CORNBORER	[0]	EARWORM	[0]	SAPBEETLE	[2]	APHID
[0]	ROOTWORM (Northurn)	[0]	ROOTWORM (Western)				
[0]	ROOTWORM (Southern)	[ ]	OTHER (Specify) _____				

12. VARIETIES MOST CLOSELY RESEMBLING THAT SUBMITTED FOR THE CHARACTERS GIVEN:

CHARACTER	VARIETY	CHARACTER	VARIETY
Maturity	A632	Kernel Type	
Plant Type	A632	Quality (Edible)	
Ear Type		Usage	A632

REFERENCES:

U.S. Department Agriculture. Yearbook 1937.

Corn: Culture, Processing, Products. 1970 Avi Publishing Company, Westport, Connecticut. (Numerous (Authors)

Emerson, R.A., G.W. Beadle, and A.C. Fraser. A Summary of Linkage Studies in Maize.Cornell A.E.S., Mem. 180. 1935.

The Mutants of Maize. 1968. Crop Science Society of America. Madison, Wisconsin.

Stringfield, G.H. Maize Inbred Lines of Ohio. Ohio A.E.S. Bul. 831. 1959.

Butler, D.R. 1954 – A System for the Classification of Corn Inbred Lines – PhD. Thesis, Ohio State University.

COMMENTS: Heat unit calculations:

$$GDD = \frac{\text{Daily max. temp. (86°F)} + \text{Daily min. temp. (50°F)} - 50°F}{2} \quad 14$$

FAPW

Exhibit D, Additional Description of the Variety.

FAPW is a yellow corn inbred that descended from a cross of two public lines, B14AH x B37H. (The single gene "Ht" was added to these lines by DEKALB AgResearch, Inc., and the lines were designated as B14AH and B37H.) FAPW will have characteristics of both parents but the breeding behavior is similar to an early B14 like A632. FAPW will have an Ht_1 gene as part of its genetic constitution.

Isozyme differences are presented in Exhibit D, Appendum I. Residual variation is shown for the Acph locus and definite allelic difference is shown for the Phi locus.

FAPW

Exhibit D, Additional Description of the Variety

Appendum I.

Isozyme genotypes of FAPW

Locus	Alleles Present FAPW	A632
Acph	4,2	4
Adh	4	4
Cat	9	9
Ep	6	6
Got1	4	4
Got2	4	4
Got3	4	4
β-Glu	7	7
Idh1	4	4
Idh2	6	6
Mdh1	6 or N	6 or N
Mdh2	6	6
Mdh3	16	16
Mdh4	12	12
Mdh5	N	N
Pgm1	9	9
Pgm2	4	4
Phi	4	5
# Plants Assayed	6	6

The technique of using isozymes for genotyping or "fingerprinting" is described by the following reference:

Goodman, M.M. and C.W. Stuber. 1980. Genetic identification of lines and crosses using isoenzyme electrophoresis. Proceedings of the Thirty-fifth Annual Corn & Sorghum Industry Research Conference.